A10 END

discharging the liquid to the first container via a liquid discharge passage, with a magnetic field exerted on the liquid suction passage and a liquid discharge passage from outside.

REMARKS

The specification has been amended from a formal standpoint.

Claims 1-6, 8-11, and 13-22 remain in the application. Claims 4-6, 9, and 20 - 22 have been amended from a formal standpoint in accordance with the U.S. rules of practice and not for reasons relating to patentability. In formulating these amendments, the previous amendments to Claims 1, 8,10, 13, 17 and the cancellation of Claims 7 and 12, were brought forth from the Article 34 amendment filed in the priority application PCT/JP00/00204. The filing fee has been calculated according to the above-amendments.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned "**Version With Markings to Show Changes Made**."

Should the Examiner have any questions or comments regarding the amendments, the Examiner is invited to telephone the undersigned at the number listed below.

The Commissioner is hereby authorized to charge payment of any further fees associated with any of the papers submitted herewith or to credit any overpayment to Deposit Account No. 08-1394.

Respectfully submitted,

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Dated: 7/18/01

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This paper and fee are being deposited with the U.S. Postal Service Express Mail Post Office to Addressee service under 37 CFR §1.10 on the date indicated above and is addressed to the Commissioner for Patents, Washington, D.C. 20231
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

On page 18, paragraph 1:

In this embodiment, a shift section (not shown) for shifting a stage on which the concentration device 10 itself and the container are placed is provided. Moreover, there are provided a stepping motor 20 provided in the pressure adjustment device of the concentration device 10, a computer serving as a control device for controlling the magnetic field of the magnetic force device 13, a display section such as CRT, a keyboard, a mouse, an input section of a reader for reading a recording medium on which a program and data are stored, such as a floppy disk, a CD or a [MO] MD, and an information processing unit (not shown) having a communication section for connecting to the Internet or the like.

On page 19 paragraph 1:

The respective liquid passages 11, 12 are communicated with a storage section 32 via a connecting section 14. The storage section 32 has a cylindrical housing 32a, and at the bottom portion thereof, has the connecting section 14 fitted to the housing [3a] 32a and secured thereto by screwing or the like, and at the upper end thereof, a stopper section 33 is fitted by screwing or the like and secured detachably. At the bottom center of the stopper section 33, there is provided a columnar convex portion 34 so as to protrude downwards. Along the central axis of the stopper section 33 and the convex portion 34, a through hole 33a is provided, and grooves 33b are formed around the circumference of the stopper section 33, at a portion where the stopper 33 is brought into contact with the housing 32a, and O-rings are inserted therein. An annular flange 33c is provided around the circumference of the stopper section 33 to stop further insertion of the stopper section 33 in the housing 32a, thereby enabling positioning in the storage section 32.

On page 19, paragraph 2:

The storage section 32 is communicated with a pump 36, serving as the pressure adjustment device, via the through hole [32a] 33a and a vent pipe 35. Gas is sucked into the storage section 32 and gas is exhausted from the storage section 32 by the pump 36. The pump 36 has a plunger 37, and is capable of vertical movement between a top dead center position and a bottom dead center position 37c (stroke 37d). Grooves 37a are formed around the circumference of the plunger 37, and O-rings are inserted in the grooves 37a. There are also provided a ball screw 38 secured to a hole 37b formed in the vicinity of the center of the

plunger 37 and provided so as to protrude downwards, and a ball screw drive section 39 supported so as to be able to rotate, with the inner peripheral face screwed together with the ball screw 38 and the outer peripheral face formed as a pulley or the like.

On page 21, paragraph 1:

In step S1, an operator gives an instruction to, for example, the above described information processing unit, to move the concentration device 30 vertically or horizontally to thereby inset the liquid suction passage 11 of the concentration device 30 into the tank 62 in which a large amount of suspension is stored, of the container 60 for concentration, and the liquid discharge passage 12 into the vacant tank 63 of the container 60 for concentration. Then, the operator brings the permanent magnet or electromagnet of the magnetic force device 13 near each liquid passage 11, 12 from outside of each liquid passage 11, 12, to thereby exert a magnetic field into the liquid passage 11, 12. By moving the plunger 37 from the top dead center downwards, with the magnetic field exerted, the suspension is sucked to the storage section [15] 32 via the liquid suction passage 11, with an air layer therebetwen.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

1. (once amended) A concentration device using magnetic particles comprising:

a liquid suction passage in which liquid can pass through only in a suction direction;

a liquid discharge passage in which liquid can pass through only in a discharge direction;

magnetic force means which can exert a magnetic field from outside of the liquid passage on at least one liquid passage thereof or remove the magnetic field, and which can separate magnetic particles having directly or indirectly captured a target substance suspended in the liquid by having the magnetic particles adhere to the inner wall of the liquid passage;

a storage section communicated with each liquid passage, for storing the sucked liquid; and

pressure adjustment means for sucking and discharging the liquid by adjusting the pressure in the storage section[.],

wherein said storage section is provided detachably with respect to said pressure adjustment means, and a liquid whose volume is larger than the maximum volume capable of being sucked into or discharged from the storage section at the time of only either suction or discharge, is continually passed through the storage section, so that the magnetic particles are separated.

4. (once amended) A concentration device using magnetic particles according to [any one of claim 1 to] claim 3, wherein said magnetic force means is obtained by providing a permanent magnet, an electromagnet or a magnetic substance outside of at least one of said liquid passages.

5. (once amended) A concentration device using magnetic particles according to [any one of claim 1 to claim 4] claim 3, wherein said storage section has a cylinder, and said pressure adjustment means has a plunger inserted into said cylinder so as to slide therein.

6. (once amended) A concentration device using magnetic particles according to [any one of claim 1 to claim 5] claims 2 and 3, wherein said pressure adjustment means has an air flow

path provided in said storage section, and a pump for performing suction and discharge of a gas in said storage section via said air flow path.

7. Canceled

8. (once amended) A concentration device using magnetic particles according to claim [7] 1, wherein when said storage section is detached, said pressure adjustment means can be mounted with one pipette tip, in which the liquid can pass through both in the suction direction and the discharge direction.

9. (once amended) A concentration device using magnetic particles according to [any one of claim 1 to claim 8] claim 3, wherein hydroxyapatite is sintered and secured to said magnetic particles, and the pH of the solution containing the magnetic particles suspended therein is adjusted to change the hydroxyapatite to a sol form or a gel form, to thereby make the hydroxyapatite capture or alienate the target substance.

10. (once amended) A concentration device using magnetic particles comprising:

a liquid passage having a suction port and a discharge port, in which liquid can pass therethrough;

magnetic force means which can exert a magnetic field from outside of the liquid passage to inside of a part of the liquid passage, which can separate magnetic particles having directly or indirectly captured a target substance suspended in the liquid, by having the magnetic particles adhere to an inner wall of the part of the liquid passage; and

a pump provided in the liquid passage, for transferring the liquid along a transfer direction of the liquid in the liquid passage[.],

Wherein at least the part of the liquid passage is provided so as to be able to be taken out, while attracting the separated magnetic particles.

12. Canceled

13. (once amended) A concentration device using magnetic particles according to any one of claim 10 to claim [12]11, wherein hydroxyapatite is sintered and secured to the magnetic particles, and the pH of the solution containing the magnetic particles suspended therein is

adjusted to change the hydroxyapatite to a sol form or a gel form, to thereby make the hydroxyapatite capture or alienate the target substance.

17. (once amended) A concentration method using magnetic particles comprising:

a capture step for capturing a target substance such as bacteria in a suspension directly or indirectly by magnetic particles;

a separation step for separating the magnetic particles by exerting a magnetic field from outside of a liquid passage [at least a part of which is provided so as to be able to be taken out from the other part thereof,] to the inside of the liquid passage to thereby attract the magnetic particles to an inner wall of the passage, at a time of passing a suspension having a first volume and in which the magnetic particles which have captured the target substance are suspended, through the liquid passage;

a re-suspension step for re-suspending the magnetic particles which have captured the target substance in the liquid, by passing a liquid having a second volume smaller than the first volume through the liquid passage in with the magnetic particles which have captured the target substance have been separated, in a state with the magnetic field not exerted on the liquid passage; and

an elution step for eluting the target substance from the magnetic particles which have captured the target substance suspended in the liquid, and separating only the magnetic particles to obtain a suspension in which the target substance is concentrated.

20. (once amended) A concentration method using magnetic particles according to [any one of claim 17 to] claim 19 wherein, in a container storing the suspension re-suspended in the re-suspension step, the magnetic particles in the suspension are separated and then re-suspended in a liquid having a third volume smaller than the second volume, by sucking and discharging the suspension, with a magnetic field exerted on the liquid passage, by means of a pipette apparatus having a liquid passage in which liquid can pass through both in the suction direction and the discharge direction of the liquid, and a storage section communicated with the passage and having a capacity smaller than the second volume, and also having magnetic force means for exerting and removing a magnetic field to/from the liquid passage from outside of the liquid passage.

21. (once amended) A concentration method using magnetic particles according to [any one of claim 17 to claim 20] claim 19, wherein said separation step shifts all of the liquid stored

in a second container to a first container, after having shifted all of the suspension stored in the first container to the second container, by sucking the liquid stored in the second container via the liquid passage, and discharging the liquid to the first container via the liquid passage, with a magnetic field exerted on the liquid passage from outside.

22. (once amended) A concentration method using magnetic particles according to [any one of claim 17 to claim 21] <u>claim 19</u>, wherein said separation step shifts all of the liquid stored in a second container to a first container, after having shifted all of the suspension stored in the first container to the second container, by sucking the liquid stored in the second container via a liquid suction passage, and discharging the liquid to the first container via a liquid discharge passage, with a magnetic field exerted on the liquid suction passage and a liquid discharge passage from outside.